National Park Service: Which Park Should I Visit?

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Background

After months of stressful participation in the KU Data Analytics Bootcamp, we were all ready for a vacation. We were wondering which national park we should visit.

We have developed a web page which provides users with an interactive experience to explore different activities at various parks which could ultimately promote visiting National Parks in the United States.

Questions to Address

Question 1 Parks and Activities	• At which park can I do my favorite activities?
Question 2 Weather	• What is the weather like at each park?
Question 3 Crowd	• How busy is a given park?
Ultimate Question	• Which National Park should I visit?

Data Cleanup & Exploration

Data sources:

- National Park Service (NPS) API (collected all park and activity information)
- OpenWeather API (collected current weather data for each location)
- STATS (collected park visitor statistics through National Park Service)

Challenge:

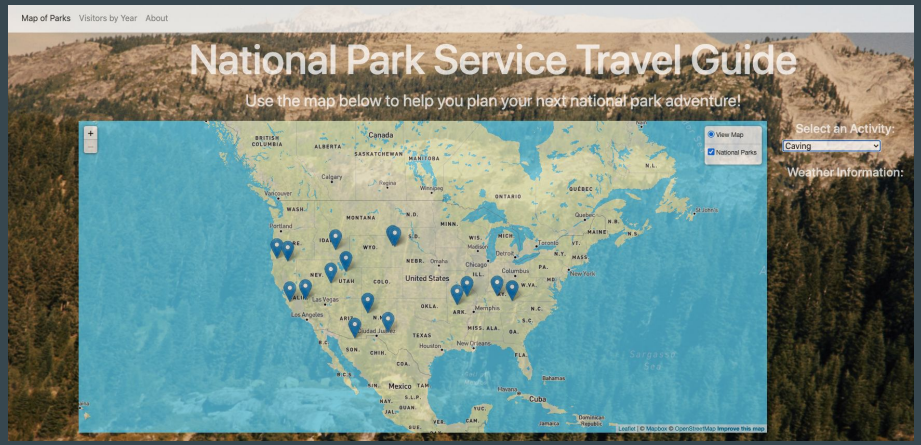
- Needed to clean up the data to match the parks in the statistics data source to NPS data source

Product Design

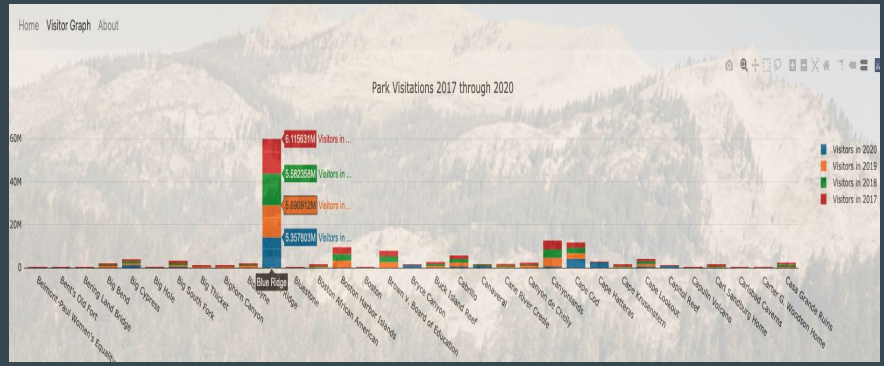
- Used API and csv files to pull data using jupyter notebook
- Loaded data into relational db using python
- Created flask app to pull from the relational database
- Used axios in javascript to call data return from flask app
- Display was completed using html and javascript
- Maps done with leaflet
- Graph done with plotly
- Bootstrap and css for design

Website Demonstration

Map of Parks Home Page



Visitors by Year Graph



Discussion

General Conclusions:

- Appears to be a decrease in visitors since 2017
- Greatest decrease in visitors in 2020

Challenges:

- Some parks may not have been collecting visitor statistics as well as others
- Collection methods may have been different at each park making true comparison difficult

Summary

Current Goal Met:

- Web page allows user to filter by activity and provides images and weather data at that park upon clicking

Future Goals:

- Add map that displays weather for all parks at once
- Allow user to select multiple parks to display in a graph and activities to display in a map
- Add a slideshow of various images for the parks upon selection
- Save user preferences

Questions?